

Periodic Trends

Review

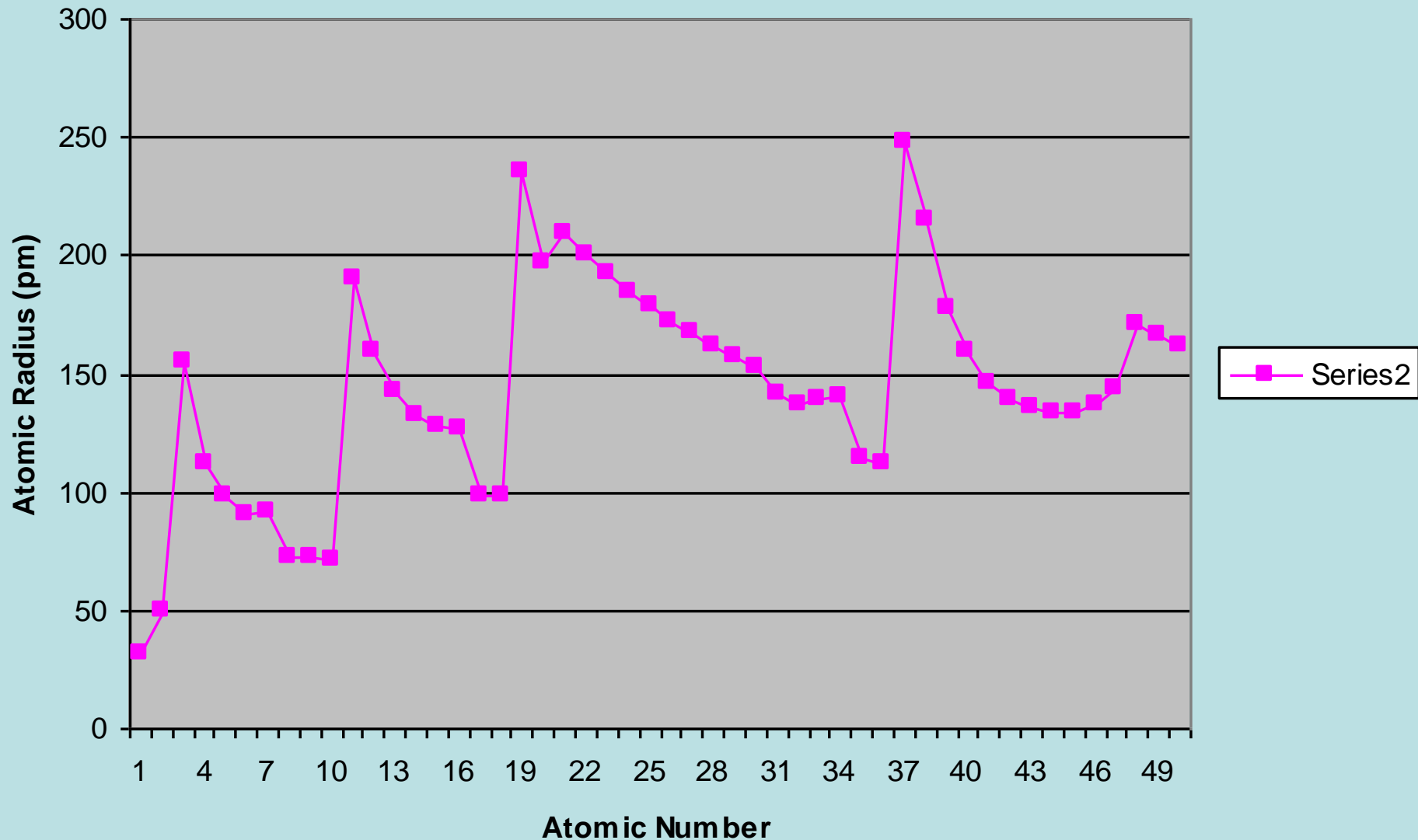
PERIODIC LAW

- When the elements are arranged in order of **increasing atomic number**, there is a periodic repetition of their physical and chemical properties

ATOMIC RADIUS

A measure of the distance from the center of the nucleus to the outer-most electron (Bottom Left, Fr has the largest Atomic Radius)

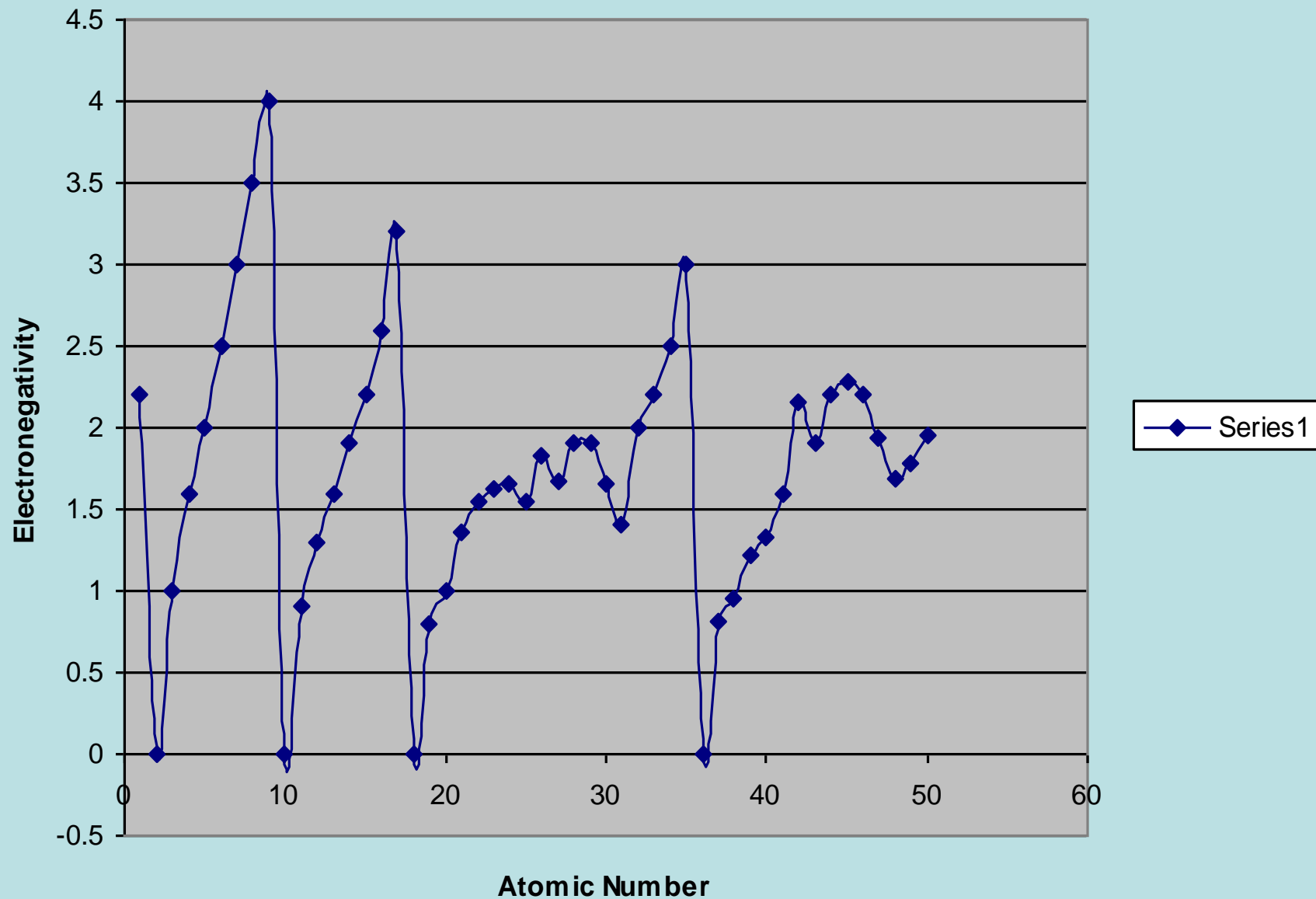
ATOMIC RADIUS TREND



ELECTRONEGATIVITY

An atoms ability or affinity to gain another electron. Trend (Top right, excluding the noble gasses, F is the most electronegative element)

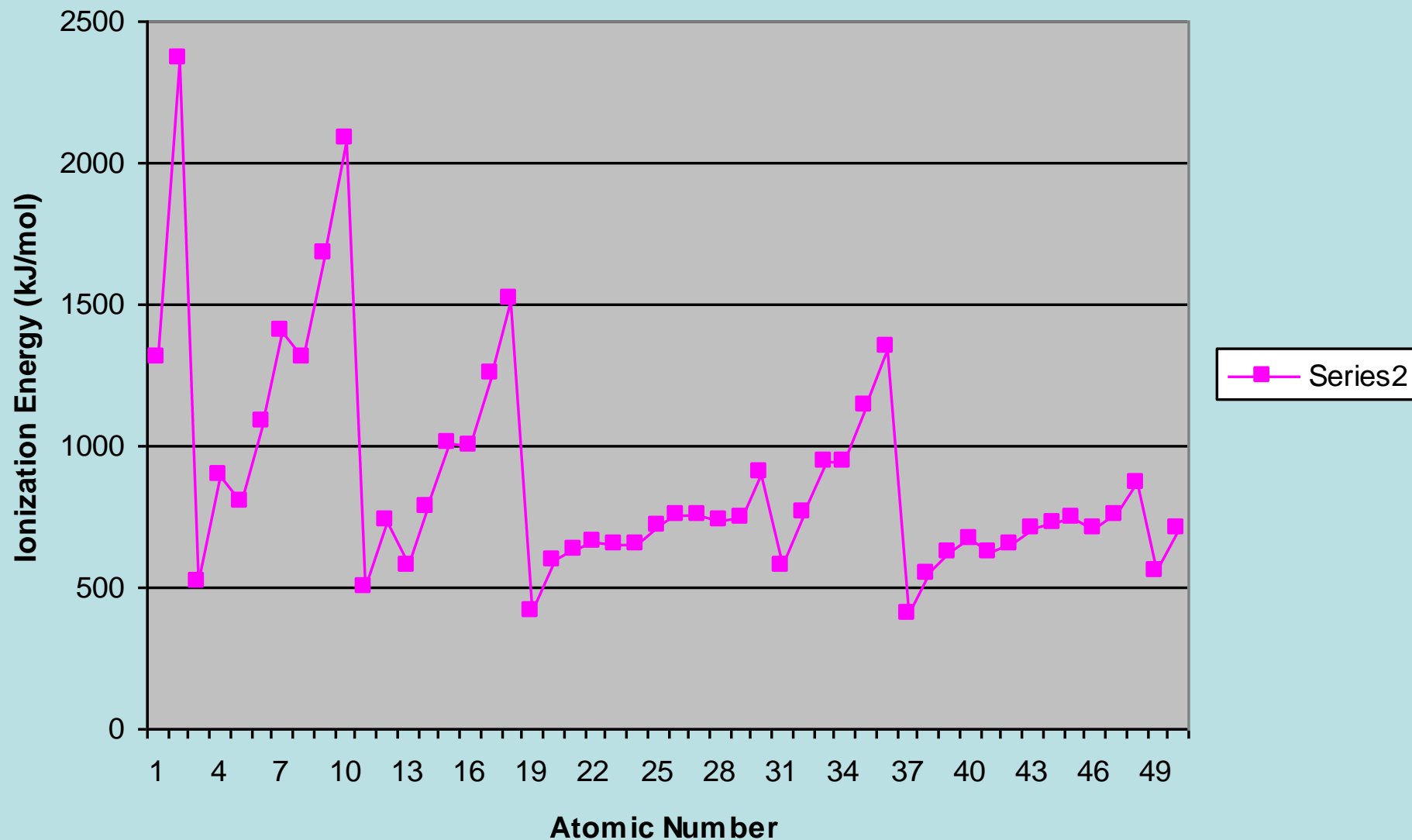
ELECTRONEGATIVITY TREND



IONIZATION ENERGY

The energy required to lose the outer-most electron from an element. (Top right, He has the greatest ionization energy)

IONIZATION ENERGY TREND



REACTIVITY

An atoms general ability to undergo a chemical reaction. The Alkali Metals are the most electronegative family/group. (Bottom Left, Fr is the most reactive)

REACTIVITY

- Highly reactive — readily participates in chemical reactions
- Unreactive — does not readily participate in chemical reactions

http://teachertube.com/viewVideo.php?video_id=41344&title=Alkali_Metals Brainiac

TOP RIGHT OR BOTTOM LEFT?

The image displays a periodic table of elements with two prominent diagonal arrows indicating trends in chemical properties:

- Yellow Arrow (Bottom-left to Top-right):** Labeled "Electronegativity (F) & Ionization Energy (He)". This indicates that electronegativity and ionization energy increase in this direction.
- Cyan Arrow (Top-left to Bottom-right):** Labeled "Atomic Radius (Fr) & Reactivity (Fr)". This indicates that atomic radius and reactivity increase in this direction.

The periodic table includes the following elements:

H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	
		Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu			
		Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr		